NOTIFICATION OF ADDENDUM

ADDENDUM NO. 2

DATED 4/01/2011

Control	**2552-04-029**
Project	**HP 2011(752)**
Highway	**LP 375**
County	**EL PASO**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: HP 2011(752) CONTROL: 2552-04-029

COUNTY: EL PASO

LETTING: 04/06/2011

REFERENCE NO: 0331

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

X BID INSERTS (SH. NO.: 1,8))

X GENERAL NOTES (SH. NO.: A,D)

)

_ SPEC LIST (SH. NO.:)

_ SPECIAL PROVISIONS:

ADDED:

DELETED:

_ SPECIAL SPECIFICATIONS:

ADDED:

DELETED:

X OTHER: Plans 7,7A,8,8A,798,798A

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

Bid Inserts

Page 5 Quantity change Item 450-2143.

Page 8 Quantity chnage for Items 512-2019, 514-2002, 514-2003.

General Notes

Page A Contractor must coordinate with El Paso County WID when working near WID structures.

Page D Item 100: Pay for necessary removal of MBGF and related elements.

Plans

Sheets 7,7A Changes described in General Notes above.

Sheets 8,8A Quantity revisions per Bid Inserts above.

Sheet 798 Multiple changes.

Sheet 798A Hazardous material handling safety for workplace and air quality issues.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW DOLLARS and CENTS	STA	459.000	1
	104	2023		REMOVING CONC (CTB) DOLLARS and CENTS	LF	2,500.000	2
	104	2037		REMOVE CONC (RAIL) DOLLARS and CENTS	LF	1,000.000	3
	110	2001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	95,354.000	4
	132	2002		EMBANKMENT (FINAL)(DENS CONT)(TY A) DOLLARS and CENTS	CY	30,539.000	5
	150	2002		BLADING DOLLARS and CENTS	HR	182.000	6
	216	2001		PROOF ROLLING DOLLARS and CENTS	HR	200.000	7
	251	2064		RWRK BS MTL(TY D)(8")(DEN CNT)(ORG POS) DOLLARS and CENTS	CY	135,767.000	8
	305	2001		SALV, HAUL & STKPL RECLM ASPH PAV DOLLARS and CENTS	CY	62,964.000	9
	310	2020		PRIME COAT (SS-1) DOLLARS and CENTS	GAL	85,240.000	10

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	ITEM NO	DESC CODE	S.P. NO.				
	341	2050	024	D-GR HMA(QCQA) TY-C PG70-22 DOLLARS and CENTS	TON	107,588.000	11
	356	2017		FABRIC DOLLARS and CENTS	SY	49.200	12
	360	2001	003	CONC PVMT (CONT REINF-CRCP)(8") DOLLARS and CENTS	SY	11,203.000	13
	360	2004	003	CONC PVMT (CONT REINF-CRCP)(11") DOLLARS and CENTS	SY	551,181.000	14
	368	2002		ANCHOR LUGS PAVEMENT TERMINALS DOLLARS and CENTS	LF	5,730.000	15
	400	2003		STRUCT EXCAV (PIPE) DOLLARS and CENTS	CY	5,670.200	16
	400	2005		CEM STABIL BKFL DOLLARS and CENTS	CY	377.000	17
	401	2001		FLOWABLE BACKFILL DOLLARS and CENTS	CY	1,418.000	18
	402	2001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	13,355.000	19
	416	2001	001	DRILL SHAFT (18 IN) DOLLARS and CENTS	LF	17,324.000	20
	416	2003	001	DRILL SHAFT (30 IN) DOLLARS and CENTS	LF	1,294.000	21

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	ITEM NO	DESC CODE	S.P. NO.				
	416	2004	001	DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	1,064.000	22
	416	2006	001	DRILL SHAFT (48 IN) DOLLARS and CENTS	LF	2,170.500	23
	416	2016	001	DRILL SHAFT (SIGN MTS)(12 IN) DOLLARS and CENTS	LF	147.000	24
	416	2018	001	DRILL SHAFT (SIGN MTS)(24 IN) DOLLARS and CENTS	LF	202.000	25
	416	2026	001	DRILL SHAFT (HIGH MAST POLE)(60 IN) DOLLARS and CENTS	LF	343.000	26
	420	2004	002	CL C CONC (BENT) DOLLARS and CENTS	CY	153.700	27
	420	2009	002	CL C CONC (HDWL) DOLLARS and CENTS	CY	2.000	28
	420	2031	002	CL S CONC (SHEAR KEY) DOLLARS and CENTS	CY	58.100	29
	420	2058	002	CL C CONC (COLLAR) DOLLARS and CENTS	CY	4.290	30
	420	2088	002	CL S CONC (DIAPHRAGM) DOLLARS and CENTS	CY	2.600	31
	420	2091	002	CL B CONC (MISC) DOLLARS and CENTS	CY	30.720	32

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	ITEM NO	DESC CODE	S.P. NO.				
	425	2004	001	PRESTR CONC BEAM (TY IV) DOLLARS and CENTS	LF	2,260.030	33
	425	2010	001	PRESTR CONC BOX BEAM (4B34) DOLLARS and CENTS	LF	377.000	34
	425	2011	001	PRESTR CONC BOX BEAM (5B34) DOLLARS and CENTS	LF	754.000	35
	427	2005		EPOXY PAINT FINISH DOLLARS and CENTS	SF	316,850.000	36
	428	2001	001	CONC SURF TREAT (CLASS I) DOLLARS and CENTS	SY	693.000	37
	430	2002		CL C CONC FOR EXT STR (ABUT) DOLLARS and CENTS	CY	110.200	38
	430	2004		CL S CONC FOR EXT STR (SLAB) DOLLARS and CENTS	CY	488.800	39
	430	2055		CL S CONC FOR EXT STR (APPR SLAB) DOLLARS and CENTS	CY	241.200	40
	432	2001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	746.400	41
	432	2066		RIPRAP (CONC)(CL B) DOLLARS and CENTS	CY	10.000	42
	438	2002		CLEAN AND SEAL EXIST JOINTS DOLLARS and CENTS	LF	400.000	43

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	ITEM NO	DESC CODE	S.P. NO.				
	446	2002		CLEAN & PAINT EXIST STR (SYSTEM II) DOLLARS and CENTS	LS	1.000	44
	450	2143	001	RAILING (TY T551) DOLLARS and CENTS	LF	24,667.000	45
	454	2001		SEALED EXPANSION JOINT (4 IN)(SEJ-A) DOLLARS and CENTS	LF	70.000	46
	454	2005		ARMOR JOINT (WITH SEAL) DOLLARS and CENTS	LF	103.000	47
	460	2003		CMP (GAL STL 18 IN) DOLLARS and CENTS	LF	1,578.000	48
	460	2004		CMP (GAL STL 24 IN) DOLLARS and CENTS	LF	133.000	49
	460	2122		CMP (GAL STL 21 IN) DOLLARS and CENTS	LF	373.000	50
	464	2005	003	RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	6,222.000	51
	464	2007	003	RC PIPE (CL III)(30 IN) DOLLARS and CENTS	LF	75.000	52
	464	2010	003	RC PIPE (CL III)(42 IN) DOLLARS and CENTS	LF	7.000	53
	465	2177	001	INLET (COMPL)(TY B) DOLLARS and CENTS	EA	3.000	54

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	ITEM NO	DESC CODE	S.P. NO.				
	465	2343	001	MANH (STAGE I)(TY P) DOLLARS and CENTS	EA	11.000	55
	465	2344	001	MANH (STAGE II)(TY P) DOLLARS and CENTS	EA	11.000	56
	465	2349	001	INLET (STAGE I)(TY C-C)(2-GRATE) DOLLARS and CENTS	EA	13.000	57
	465	2350	001	INLET (STAGE II)(TY C-C)(2-GRATE) DOLLARS and CENTS	EA	13.000	58
	465	2351	001	INLET (STAGE I)(TY C-C)(3-GRATE) DOLLARS and CENTS	EA	6.000	59
	465	2352	001	INLET (STAGE II)(TY C-C)(3-GRATE) DOLLARS and CENTS	EA	6.000	60
	465	2728	001	INLET (STAGE I) (TY C)(1-GRATE) DOLLARS and CENTS	EA	4.000	61
	465	2729	001	INLET (STAGE II) (TY C)(1-GRATE) DOLLARS and CENTS	EA	4.000	62
	474	2005		SLOT DRAIN (GAL STL)(18 IN) DOLLARS and CENTS	LF	1,581.000	63
	474	2007		SLOT DRAIN (GAL STL)(21 IN) DOLLARS and CENTS	LF	760.000	64
	474	2009		SLOT DRAIN (GAL STL)(24 IN) DOLLARS and CENTS	LF	600.000	65

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	ITEM NO	DESC CODE	S.P. NO.				
	479	2003		ADJ MANHS & INLETS DOLLARS and CENTS	EA	14.000	66
	480	2001		CLEAN EXIST CULVS DOLLARS and CENTS	EA	21.000	67
	496	2002		REMOV STR (INLET) DOLLARS and CENTS	EA	7.000	68
	496	2003		REMOV STR (MANHOLE) DOLLARS and CENTS	EA	1.000	69
	496	2004		REMOV STR (SET) DOLLARS and CENTS	EA	1.000	70
	496	2005		REMOV STR (WINGWALL) DOLLARS and CENTS	EA	2.000	71
	496	2006		REMOV STR (HEADWALL) DOLLARS and CENTS	EA	2.000	72
	496	2007		REMOV STR (PIPE) DOLLARS and CENTS	LF	462.000	73
	500	2001	005	MOBILIZATION DOLLARS and CENTS	LS	1.000	74
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HAN-DLING DOLLARS and CENTS	MO	29.000	75

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	ITEM NO	DESC CODE	S.P. NO.				
	506	2016	010	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	1,167.000	76
	506	2019	010	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	1,167.000	77
	506	2031	010	SANDBAGS FOR EROSION CONTROL DOLLARS and CENTS	EA	148.000	78
	506	2034	010	TEMPORARY SEDIMENT CONTROL FENCE DOLLARS and CENTS	LF	24,432.000	79
	512	2010	002	PORT CTB (DES SOURCE)(SAFETY SH)(TY 1) DOLLARS and CENTS	LF	88,123.000	80
	512	2019	002	PORT CTB (MOVE)(SAFETY SH)(TY 1) DOLLARS and CENTS	LF	159,479.000	81
	512	2028	002	PORT CTB (STKPL)(SAFETY SH)(TY 1) DOLLARS and CENTS	LF	89,035.000	82
	512	2037	002	PORT CTB (REMOVE)(SAFETY SH)(TY 1) DOLLARS and CENTS	LF	225.000	83
	514	2001	002	PERM CONC TRF BARR (SAFETY SH)(TY 1) DOLLARS and CENTS	LF	3,000.000	84
	514	2002	002	PERM CONC TRF BARR (SAFETY SH)(TY 2) DOLLARS and CENTS	LF	1,340.000	85
	514	2003	002	PERM CONC TRF BARR (SAFETY SH)(TY 3) DOLLARS and CENTS	LF	1,662.000	86

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	ITEM NO	DESC CODE	S.P. NO.				
	514	2039	002	PERM CONC TRF BARR(F-SHAPE)(SPL) DOLLARS and CENTS	LF	720.000	87
	529	2006		CONC CURB (MONO) (TY II) DOLLARS and CENTS	LF	2,795.000	88
	540	2002	023	MTL W-BEAM GD FEN (STEEL POST) DOLLARS and CENTS	LF	31,042.000	89
	540	2005	023	TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	38.000	90
	540	2011	023	MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	21.000	91
	544	2001		GUARDRAIL END TREATMENT (INSTALL) DOLLARS and CENTS	EA	40.000	92
	545	2001		CRASH CUSH ATTEN (INSTL) DOLLARS and CENTS	EA	54.000	93
	545	2002		CRASH CUSH ATTEN (MOVE & RESET) DOLLARS and CENTS	EA	29.000	94
	545	2003		CRASH CUSH ATTEN (REMOVE) DOLLARS and CENTS	EA	61.000	95
	550	2002		CHAIN LINK FENCE (REPAIR) (6’) DOLLARS and CENTS	LF	80.000	96
	550	2003		CHAIN LINK FENCE (REMOVE) DOLLARS and CENTS	LF	80.000	97

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	ITEM NO	DESC CODE	S.P. NO.				
	550	2060		GATE (INSTALL)(DOUBLE)(8’ X 30.5’) DOLLARS and CENTS	EA	1.000	98
	610	2049	010	INS RD IL AM (TY SP) 48S-10-10(.4 KW)S DOLLARS and CENTS	EA	134.000	99
	610	2060	010	INS RD IL AM (U/P) (TY 1) (.15KW)S DOLLARS and CENTS	EA	16.000	100
	610	2069	010	REMOVE RD IL ASM (U/P) DOLLARS and CENTS	EA	10.000	101
	610	2071	010	INS RDWY ILL ASSEM (SPECIAL) DOLLARS and CENTS	EA	1.000	102
	610	2072	010	REMOVE RDWY ILL ASSEM DOLLARS and CENTS	EA	225.000	103
	613	2005	002	HI MST IL POLE (150 FT) (80 MPH) DOLLARS and CENTS	EA	12.000	104
	614	2005		HI MST IL ASM(12-400 WT)ASYM(TY A)SHLD DOLLARS and CENTS	EA	12.000	105
	618	2018		CONDT (PVC) (SCHD 40) (2") DOLLARS and CENTS	LF	58,472.000	106
	618	2019		CONDT (PVC) (SCHD 40) (2") (BORE) DOLLARS and CENTS	LF	3,441.000	107
	618	2022		CONDT (PVC) (SCHD 40) (3") DOLLARS and CENTS	LF	10,415.000	108

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	ITEM NO	DESC CODE	S.P. NO.				
	618	2023		CONDT (PVC) (SCHD 40) (3") (BORE) DOLLARS and CENTS	LF	1,987.000	109
	618	2034		CONDT (PVC) (SCHD 80) (2") DOLLARS and CENTS	LF	4,681.000	110
	618	2038		CONDT (PVC) (SCHD 80) (3") DOLLARS and CENTS	LF	505.000	111
	618	2046		CONDT (RM) (1") DOLLARS and CENTS	LF	120.000	112
	618	2052		CONDT (RM) (2") DOLLARS and CENTS	LF	690.000	113
	620	2004	001	ELEC CONDR (NO. 2) INSULATED DOLLARS and CENTS	LF	11,701.000	114
	620	2008	001	ELEC CONDR (NO. 4) INSULATED DOLLARS and CENTS	LF	57,542.000	115
	620	2010	001	ELEC CONDR (NO. 6) INSULATED DOLLARS and CENTS	LF	70,149.000	116
	620	2012	001	ELEC CONDR (NO. 8) INSULATED DOLLARS and CENTS	LF	75,027.000	117
	620	2014	001	ELEC CONDR (NO.10) INSULATED DOLLARS and CENTS	LF	9,711.000	118
	620	2016	001	ELEC CONDR (NO.12) INSULATED DOLLARS and CENTS	LF	2,557.000	119

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	ITEM NO	DESC CODE	S.P. NO.				
	620	2018	001	ELEC CONDR (NO.14) INSULATED DOLLARS and CENTS	LF	43,018.000	120
	620	2026	001	ELEC CONDR (NO.4/0) INSULATED DOLLARS and CENTS	LF	1,515.000	121
	624	2002	014	GROUND BOX TY 1 (122422) W/APRON DOLLARS and CENTS	EA	22.000	122
	624	2004	014	GROUND BOX TY 2 (243636) W/APRON DOLLARS and CENTS	EA	3.000	123
	624	2008	014	GROUND BOX TY A (122311) W/APRON DOLLARS and CENTS	EA	233.000	124
	624	2012	014	GROUND BOX TY C (162911) W/APRON DOLLARS and CENTS	EA	17.000	125
	624	2014	014	GROUND BOX TY D (162922) W/APRON DOLLARS and CENTS	EA	51.000	126
	624	2034	014	REMOVE EXISTING GROUND BOXES DOLLARS and CENTS	EA	7.000	127
	628	2014	001	ELC SRV TY A 240/480 060 (NS)SS(E)GC(O) DOLLARS and CENTS	EA	9.000	128
	628	2116	001	ELC SRV TY D 120/240 100 (NS)GS(N)TP(O) DOLLARS and CENTS	EA	3.000	129
	628	2158	001	REMOVE ELECTRICAL SERVICES DOLLARS and CENTS	EA	11.000	130

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	ITEM NO	DESC CODE	S.P. NO.				
	628	2177	001	ELC SRV TY A 240/480 100 (NS)SS(E)GC(O) DOLLARS and CENTS	EA	1.000	131
	628	2212	001	ELC SRV TY D 120/240 100 (NS)GS(N)GC(O) DOLLARS and CENTS	EA	18.000	132
	636	2001	014	ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	600.000	133
	636	2002	014	ALUMINUM SIGNS (TY G) DOLLARS and CENTS	SF	2,726.000	134
	636	2003	014	ALUMINUM SIGNS (TY O) DOLLARS and CENTS	SF	4,383.000	135
	644	2001		INS SM RD SN SUP&AM TY 10BWG(1) SA(P) DOLLARS and CENTS	EA	39.000	136
	644	2004		INS SM RD SN SUP&AM TY 10BWG(1) SA(T) DOLLARS and CENTS	EA	37.000	137
	644	2006		INS SM RD SN SUP&AM TY 10BWG(1) SA(U) DOLLARS and CENTS	EA	3.000	138
	644	2025		INS SM RD SN SUP&AM TY S80(1) SA(T) DOLLARS and CENTS	EA	3.000	139
	644	2060		REMOVE SM RD SN SUP & AM DOLLARS and CENTS	EA	78.000	140
	647	2001		INSTALL LRSS (STRUCT STEEL) DOLLARS and CENTS	LB	12,002.000	141

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	ITEM NO	DESC CODE	S.P. NO.				
	647	2002		RELOCATE LRSA DOLLARS and CENTS	EA	1.000	142
	647	2003		REMOVE LRSA DOLLARS and CENTS	EA	25.000	143
	650	2025		INS OH SN SUP(30 FT BAL TEE) DOLLARS and CENTS	EA	2.000	144
	650	2203		INS OH SN SUP (65 FT SPAN)(CIRC TUBE) DOLLARS and CENTS	EA	2.000	145
	650	2204		INS OH SN SUP (70 FT SPAN)(CIRC TUBE) DOLLARS and CENTS	EA	4.000	146
	650	2205		INS OH SN SUP (75 FT SPAN)(CIRC TUBE) DOLLARS and CENTS	EA	5.000	147
	650	2207		INS OH SN SUP (85 FT SPAN)(CIRC TUBE) DOLLARS and CENTS	EA	1.000	148
	650	2217		INS OH SN SUP (25 FT CANT)(CIRC TUBE) DOLLARS and CENTS	EA	12.000	149
	662	2067		WK ZN PAV MRK REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	109,272.000	150
	662	2077		WK ZN PAV MRK REMOV (W) 12" (SLD) DOLLARS and CENTS	LF	30.000	151
	662	2079		WK ZN PAV MRK REMOV (W) 24" (SLD) DOLLARS and CENTS	LF	160.000	152

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	ITEM NO	DESC CODE	S.P. NO.				
	662	2086		WK ZN PAV MRK REMOV (W) (ENTR GORE) DOLLARS and CENTS	EA	1.000	153
	662	2087		WK ZN PAV MRK REMOV (W) (EXIT GORE) DOLLARS and CENTS	EA	3.000	154
	662	2099		WK ZN PAV MRK REMOV (Y) 4" (SLD) DOLLARS and CENTS	LF	16,317.000	155
	666	2003		REFL PAV MRK TY I (W) 4" (BRK)(100MIL) DOLLARS and CENTS	LF	692.000	156
	666	2039		REFL PAV MRK TY I (W) 12"(LNDP)(100MIL) DOLLARS and CENTS	LF	3,116.000	157
	666	2087		REFL PAV MRK TY I(W) (SYMBOL) (100MIL) DOLLARS and CENTS	EA	89.000	158
	666	2142		REF PAV MRK TY II (W) 4" (BRK) DOLLARS and CENTS	LF	25,007.000	159
	666	2145		REF PAV MRK TY II (W) 4" (SLD) DOLLARS and CENTS	LF	91,653.000	160
	666	2153		REF PAV MRK TY II (W) 8" (SLD) DOLLARS and CENTS	LF	153,615.000	161
	666	2154		REF PAV MRK TY II (W) 12" (LNDP) DOLLARS and CENTS	LF	3,116.000	162
	666	2170		REF PAV MRK TY II (W) (SYMBOL) DOLLARS and CENTS	EA	89.000	163

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	ITEM NO	DESC CODE	S.P. NO.				
	666	2178		REF PAV MRK TY II (Y) 4" (SLD) DOLLARS and CENTS	LF	91,653.000	164
	666	2306		REF PAV MRK TY II (BLACK)8"(BRK) DOLLARS and CENTS	LF	24,315.000	165
	672	2017	034	REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	5,194.000	166
	677	2001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	101,858.000	167
	677	2011		ELIM EXT PAV MRK & MRKS (EXIT GORE) DOLLARS and CENTS	EA	3.000	168
	678	2021		PAV SURF PREP FOR MRK (BLAST CLN)(4") DOLLARS and CENTS	LF	692.000	169
	682	2025	001	VEH SIG SEC (12 IN) LED (YEL) DOLLARS and CENTS	EA	8.000	170
	684	2008		TRF SIG CBL (TY A) (12 AWG) (3 CONDR) DOLLARS and CENTS	LF	1,550.000	171
	685	2001	014	INSTALL RDSD FLASH BEACON ASSEMBLY DOLLARS and CENTS	EA	4.000	172
	4061	2007		IRRIGATION VALVE (24") DOLLARS and CENTS	EA	1.000	173
	4566	2005		SOUND WALL TYPE 1 DOLLARS and CENTS	SF	163,101.600	174

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	ITEM NO	DESC CODE	S.P. NO.				
	4566	2006		SOUND WALL TYPE 2 DOLLARS and CENTS	SF	41,717.800	175
	4570	2001		SOUND WALL BARRIER GATES DOLLARS and CENTS	EA	1.000	176
	5049	2003		BIODGRD EROSION CONTROL LOGS (12" DIA) DOLLARS and CENTS	LF	7,950.000	177
	6009	2001		ITS SYSTEM SUPPORT EQUIPMENT DOLLARS and CENTS	LS	1.000	178
	6014	2014		FIBER OPTIC CBL (SNGLE-MODE)(48 FIBER) DOLLARS and CENTS	LF	1,032.000	179
	6014	2017		FIBER OPTIC CBL (SNGLE-MODE)(144 FIBER) DOLLARS and CENTS	LF	47,059.000	180
	6014	2019		FIBER OPTIC PIGTAIL (12 FIBER) DOLLARS and CENTS	LF	447.000	181
	6014	2020		FIBER OPTIC SPLICE ENCLOSURE DOLLARS and CENTS	EA	3.000	182
	6014	2021		FIBER OPTIC PATCH PANEL (12 POSITION) DOLLARS and CENTS	EA	4.000	183
	6014	2037		FIBER OPTIC CABLE ROAD MARKER DOLLARS and CENTS	EA	14.000	184

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6014	2054		FIBER OPTIC PATCH PANEL (144 POSITION) DOLLARS and CENTS	EA	6.000	185
	6025	2001		CCTV FIELD EQUIPMENT DOLLARS and CENTS	EA	2.000	186
	6613	2001		SYSTEM INTEGRATION DOLLARS and CENTS	LS	1.000	187
	6834	2001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	1,083.000	188
	8020	2003		REF PROF PAV MRK TY I(W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	91,653.000	189
	8020	2004		REF PROF PAV MRK TY I(W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	24,315.000	190
	8020	2008		REF PROF PAV MRK TY I(Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	91,653.000	191
	8020	2012		REF PROF PAV MRK TY I(W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	153,615.000	192
	8095	2001		ENVIRONMENTAL CONTROL COMMUN BUILDING DOLLARS and CENTS	EA	3.000	193
	8288	2001		RADAR VEHICLE SENSING DEVICE DOLLARS and CENTS	EA	29.000	194

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	8368	2003		CONDUIT (PREPARE) DOLLARS and CENTS	LF	33,992.000	195
	8398	2001		LIGHTNING PROTECTION SYSTEM DOLLARS and CENTS	LS	3.000	196
	8577	2001		INSTALL DYNAMIC MSG SIGN DOLLARS and CENTS	EA	2.000	197
	8674	2001		CAMERA POLE STRUCTURE W/CABINET DOLLARS and CENTS	EA	2.000	198
	8675	2001		COMMUNICATIONS HUB CABINET DOLLARS and CENTS	EA	10.000	199
	8679	2001		ANTENNA (UNIDIRECTIONAL) DOLLARS and CENTS	EA	28.000	200
	8679	2002		ANTENNA (OMNI-DIRECTIONAL) DOLLARS and CENTS	EA	8.000	201
	8679	2003		WIRELESS ETHERNET RADIO DOLLARS and CENTS	EA	36.000	202
	8721	2006		CTMS RELOCATION (FIBER OPTIC CABLE) DOLLARS and CENTS	LF	33,992.000	203
	8732	2001		ENVIRONMENTALLY CONTROLLED UNIT (ECU) DOLLARS and CENTS	EA	2.000	204

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	8734	2001		LED LANE CONTROL SYSTEM DOLLARS and CENTS	EA	31.000	205
	8735	2001		ADD/DROP MULTIPLEXOR DOLLARS and CENTS	EA	3.000	206
	8735	2002		VIDEO INTERFACE CARD (INPUT) DOLLARS and CENTS	EA	8.000	207
	8735	2003		VIDEO INTERFACE CARD (OUTPUT) DOLLARS and CENTS	EA	4.000	208
	8735	2004		RS-232 INTERFACE CARD DOLLARS and CENTS	EA	3.000	209
	8735	2005		ETHERNET INTERFACE CARD DOLLARS and CENTS	EA	3.000	210
	8735	2006		E&M CARD DOLLARS and CENTS	EA	3.000	211
	8737	2001		REM AND RELOCATE CAMERA POLE STRUC-TURE DOLLARS and CENTS	EA	1.000	212

GENERAL NOTES:

Tests to be in accordance with the Texas Department of Transportation Standard Test Methods.

TABLE 1

BASIS OF ESTIMATE

ITEM	DESCRIPTION	RATE
150	BLADING	HR. (TOTAL)
216	ROLLING (PROOF)	HR. (TOTAL)
310[1]	PRIME COAT (SS-1)	0.15 GAL./SQ.YD.
341	DENSE-GRADED HMA (QC/QA) TY C PG70-22	1.98 TON/CU. YD. 1 IN.=110LB./SQ.YD.

1. This application for emulsion shall be achieved through multiple applications.

GENERAL REQUIREMENTS

This Contract is for the construction of mainlanes consisting of continuously reinforced concrete pavement, asphaltic concrete pavement, concrete riprap, bridge structure widening, storm sewers, overhead sign bridges, traffic management system, illumination, signing, striping, delineation, and landscaping.

When working in the area of El Paso County Water Improvement District structures, the Water District shall be notified.

Become familiar with project site prior to submitting bids.

Once a work order has been issued by the State, submit a Proposed Sequence of Construction for the entire project to the Engineer. Upon approval by the Engineer, such sequence will constitute the construction procedure for this project. No changes will be permitted in the approved sequence, except as approved in writing.

Maintain the entire project area in a neat and orderly manner throughout the duration of the work. Remove all construction litter within the right of way inside the project limits. This work will be subsidiary to the various bid items.

Where nighttime work is approved, provide adequate lighting for the entire work site as directed. This shall be considered subsidiary to the various bid items.

Maintain existing sanitary sewer and water services to all property owners within the project without interruptions. All such work shall be considered subsidiary to the various storm sewer bid items.

Refer to the various Traffic Control Plan (TCP) project overview sheets for the proposed sequence of work; changes will not be permitted, except as approved in writing by the Engineer.

Plan datum for this project are NAD 83 for horizontal and NAVD 88 for elevation based.

Vibratory rollers will not be permitted.

Sprinkling will be used for dust control as directed. The work performed and materials furnished in accordance with this Item will not be paid directly, but will be subsidiary to pertinent Items.

ITEM 4 – SCOPE OF WORK

Provide a well-maintained roadway at all times.

Provide automobile and pedestrian access at all times, including Saturdays, Sundays, and holidays. This access includes, but not limited to, driveways, streets, parking areas, and walkways. This shall be considered subsidiary to the various bid items.

Schedule and perform all work to assure proper drainage during the course of construction operations. All labor, tools, equipment, and supervision required to ensure drainage, removal, and handling of water shall be considered incidental work.

Repair any existing pavement, utilities, structures, etc., damaged as a result of construction operations, at no additional cost to the State.

Maintain all Contract items until final acceptance of the project.

A Force Account has been established in the amount of $7,500,000.00. The Force Account is to be used for Tolling Equipment, installation of the equipment, and any miscellaneous items required for the implementation of tolling system.

ITEM 5 – CONTROL OF THE WORK

The State will furnish horizontal and vertical reference points. Verify all dimensions and grades before proceeding. Report any discrepancies found immediately. Any discrepancies not reported will be at no additional cost to the State.

Inform the Engineer and the respective utility companies, when it becomes apparent that the utility lines will interfere with the work in progress.

Arrange the operations so that any two consecutive exit or entrance ramps will not be closed at the same time, unless directed.

ITEM 6 – CONTROL OF MATERIALS

A Force Account has been established in the amount of $300,000.00. The Force Account is to be used for the Boring, Testing, Containment, Removal, Disposal and any miscellaneous items

associated with the handling of contaminated material if found in the areas indicated on plans and described in the Environmental Permits, issues and Commitments (EPIC) sheets. In accordance with Article 6.10, if visual observation or odor indicates hazardous materials, especially in the areas indicated on the plans and EPIC sheets, the Contractor shall notify the Engineer and cease work activities in this area immediately. The Department will determine a plan of action with the appropriate agencies.

ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

Comply with all OSHA and EPA regulations as well as all local and State requirements.

Coordinate street closures with the local fire, police, and other emergency personnel.

When applicable, comply with all requirements of the Environmental Permits Issues and Commitments (EPIC) sheets.

Dispose all waste materials in compliance with Local, State, and Federal regulations. Submit list of all approved waste sites to the Engineer for review.

Protect pavement from any damage when moving equipment not licensed for operations on public highways.

ITEM 8 – PROSECUTION AND PROGRESS

This project is to be completed in **696** working days in accordance with Section 8.3.A.2., "Six-Day Workweek."

A Critical Path Method Schedule is required for this project in accordance with Special Provision 008-086. Submit (2) two 11″ x 17″ hard copies and an electronic file of the original or updated progress schedule.

Earthwork cross sections are available at the Area Engineer's office and may be copied at the Contractor's expense.

Keep traveled surfaces used in hauling operations clear and free of dirt or other material.

Protect from damage all areas of the right of way, which are not included in the actual limits of the proposed construction areas, from destruction, exercise care to prevent damage to trees, vegetation, and other natural features.

Protect those trees, shrubs, and other landscape features within the actual construction and/or fenced protection area, as designated for preservation, from abuse, marring, or damage. Restore any area disturbed or damaged as a result of this operation, to a condition as good as or better than prior to start of construction operation. This work will be at the Contractor's expense.

Perform any erosion control measures before beginning the next phase, or land, unless otherwise authorized.

FOR EACH INTERSECTION BRIDGE

The Contractor shall have 60 working days to complete all bridge work within each milestone.

There is a suggested sequence of construction defined for this project, however, the bridge work at Fonseca, Midway, Yarbrough, and Padres interchanges are considered independent Milestones at each location. Bridge work has been determined, but not limited to the following:

1. Drilled Shafts
2. Abutments/Bents
3. Beams
4. Bridge Deck
5. Traffic Rail

Liquidated damages will be assessed for each independent Milestone as well as for the completion of the bridge work. The road user cost liquidated damages for the bridge work shall be $1,900 per day for all the project milestones. Saturdays and Sundays shall also be charged as working days.

Milestones shall be finished in the number of days assigned. Milestone charges will begin once the traffic control (detour or traffic shift) for that Phase has been set. In order for a Milestone to be complete, the traffic control setup that has been established (detour or traffic shift) for that Phase will have to be removed from the construction area and traffic shifted to the following or next detour.

ITEM 9 – MEASUREMENT AND PAYMENT

Submit material-on-hand payment requests at least **three** working days prior to the end of the month for payment on that month's estimate.

There are an anticipated total of twenty-eight concrete sign foundations throughout the project to be removed. All labor, materials, and equipment used for removal and disposal shall be subsidiary to Item 647, "Large Road Sign Supports and Assemblies."

ITEM 100 – PREPARING RIGHT OF WAY

Refer to specification for a list of items covered under this Item. All existing metal beam guard fence, guardrail end treatments, terminal anchor sections, and concrete riprap necessary to be removed shall be paid under this Item.

ITEM 104 – REMOVING CONCRETE

The removal of the concrete traffic barrier (CTB) shall include the headlight barrier and other items attached to the CTB. These items will become property of the Contractor.

Removal of existing continuous reinforced concrete pavement (CRCP) will be paid under this Item.

ITEM 105 – REMOVING STABILIZED BASE AND ASPHALT PAVEMENT

Complete removal of existing pavement structure shall be governed under this Item. Incorporate removed material in embankment. Any excess material will be property of the Contractor.

ITEM 110 – EXCAVATION

All work required to sawcut existing pavement, concrete, driveways, etc., as shown in the plans or as directed, will not be paid directly, but shall be subsidiary to this Item.

To eliminate all drop off conditions construct tapers as directed. This work will not be paid directly, but will be considered subsidiary to pertinent bid items.

ITEM 132 – EMBANKMENT

All delivered material used for this Item is to meet minimum Triaxial Class 4 when tested in accordance with Texas Test Method TEX-117-E, "Triaxial Compression Tests for Disturbed Soils and Base Materials," Part I, prior to deliver to the roadway.

The maximum P.I. for embankment material is 15.

ITEM 150 – BLADING

Blading work will be used as directed.

ITEM 216 – PROOF ROLLING

Use proof rolling only as directed.

ITEM 251 – REWORKING BASE COURSES

The existing base material and Subgrade material that remains in place as part of the pavement structure shall be stabilized with RAP at a rate of 30% by weight.

The surface material in the existing median areas shall either be removed or used as stabilization for the base or subgrade as shown on the plans.

ITEM 305 – SALVAGING, HAULING, AND STOCKPILING RECLAIMABLE ASPHALT PAVEMENT

Removal of existing pavement structure shall be governed under this Item. Incorporate removed RAP in the existing base and embankment material at the rate of 30% by weight. Any excess RAP material will be property of the Contractor.

Equipment used for this Item shall meet the requirements of Section 354.2.A. in Item 354.

ITEM 341 – DENSE-GRADED HOT-MIX ASPHALT (QC/QA)

This Item will govern for all hot-mix operations.

Provide a summary spreadsheet for each lot in accordance with Article 520.2. of the Standard Specifications.

Fractionated RAP can be used in the production of this Item.

Supply warm-mix under this Item. Refer to Special Provision 341-024 for further information.

Verification tests will be performed by the Engineer using Texas Test Method TEX-530-C.

Do not cover with asphaltic material and existing survey monuments, manholes, or valves covers, etc. Adjustments will be done in coordination with the respective utility owners.

Place a stringline or other suitable marking where needed to assure smooth, neat lines, or as directed.

Place longitudinal joints approximately 6 inches from proposed broken stripe, or as directed.

The stripping characteristic of the hot-mix asphalt will be tested according to Test Method TEX-530-C (Boil Test). The stripping in the produced mixture should be 12%, unless otherwise approved.

Use Surface Aggregate Classification "A" material in all riding surface mixes.

Target laboratory-molded density will be 97%.

No placement or production bonus or penalty will be paid for HMAC used as a moisture barrier under CRCP.

For HMAC used as a moisture barrier under CPCR, a void content of 4-6% will be required.

ITEM 360 – CONCRETE PAVEMENT

Use Type II Cement for this Item.

A pre-paving meeting will be required.

Submit a paving plan detailing the location of joints and the sequence of paving to the Engineer a minimum of seven days before the pre-paving meeting.

A minimum of 2 additional sets of cylinders will be required for early-strength determination when concrete placement is at one of the specified locations, which requires opening to traffic

immediately after 72 hours of placement. Once the required design strength has been attained, as determined by Flexural Beam Testing, any remaining beams may be discarded.

Only multiple piece tie bars, as described in Section 360.2.B.2 of the 2004 Standard Specifications book and as noted on Standard sheet, "Continuously Reinforced Concrete Pavement," CRCP (1)-09, will be used at longitudinal construction joints and only threaded couplings will be permitted for these tie bars.

Place concrete at a minimum of 55°F.

New concrete paving adjacent to existing concrete paving will require a neat sawcut edge and drilling as per Item 361, regardless whether transverse or longitudinally. This work will be considered subsidiary to Item 360.

When freezing weather or windy conditions, in excess of 25 MPH are forecasted to occur within 12 hours from the last CRCP placement of the day, cover and protect the entire CRCP placed that day with cotton blankets and polyethylene fill immediately after the membrane curing has been applied. Place and weigh the film so it will remain in direct contact with the surface for a period of 48 hours and to the satisfaction of the Engineer.

Place longitudinal joints at a minimum distance of six inches from the lane lanes to minimize any conflicts with the pavement markings. Ensure that these joints do not fall within the anticipated wheelpath area.

Use poured joint sealer Class 4 on all sawed joints.

ITEM 400 – EXCAVATION AND BACKFILL FOR STRUCTURES

Structural excavation, backfill, and cement-stabilized backfill are pay items. Structural excavation and backfill for sound wall are subsidiary to the sound wall.

Structural excavation, backfill, and cement-stabilized backfill for slotted drain are subsidiary to the Item 479.

Do not undercut the trench bottom used for storm sewer construction. Refer to the drainage details as directed.

ITEM 401 – FLOWABLE BACKFILL

Mix design is to be approved prior to all applications.

This Item will be used to pay for backfilling storm sewer trenches after RCP and CMP pipe is installed to the lines and details shown on the plans.

The use of flowable backfill around inlets and manholes, as shown on the plans, is subsidiary to Item 465, "Manholes and Inlets."

The Contractor has the option of backfilling slotted drains with flowable backfill instead of cement-stabilized concrete backfill as shown under Item 474, "Slotted Drain." If option is utilized, flowable fill will not be paid directly, but is considered subsidiary to Item 474.

ITEM 416 – DRILLED SHAFT FOUNDATIONS

Retaining wall and drilled shaft construction at all abutments will be by an approved method.

Stake all foundations and locations approved by the Engineer prior to commencement of drilling operations in order to ensure no conflicts with utility lines. Coordinate with the utility companies for utility location within the project limits. Repair any damage to existing utilities to the satisfaction of the Engineer and the utility owner at no additional cost to the State.

Use "Class C" concrete.

Cover drilled shafts with plywood and delineate them with cones, to the satisfaction of the Engineer, when not working in them and after work hours.

ITEM 420 – CONCRETE FOR STRUCTURES

When the header or rail system for a self-propelled transverse finishing machine is located, other than directly over a beam or girder, it will be designed to provide maximum longitudinal load distribution so that deflection of the header or rail system can be minimized during placement of the concrete slab. The header or rail system will be approved by the Engineer prior to construction of the system.

Use only Type II cement for this Item.

ITEM 421 – HYDRAULIC CEMENT CONCRETE

For the purpose of sampling and testing only, all "Class A" and "Class B" concrete shall be defined as miscellaneous concrete.

Personnel will be certified by the El Paso District Laboratory in the handling, transporting, and curing of all concrete test specimens. In addition, all equipment will be certified prior to being used. Only TxDOT personnel will perform all concrete quality tests and molding of all test specimens.

Furnish and properly maintain all test molds. The test molds shall meet the requirements of Test Methods TEX-447-A and TEX-448-A. The test molds must be ready for use when needed. The Contractor shall be responsible for curing and transporting beam specimens as directed. Furnish proper equipment to remove concrete beam specimens from the molds. For all concrete items, provide a wheel barrow or other acceptable container to the Engineer. This will not be paid directly, but will be subsidiary to the various bid items.

Test Method TEX-418-A, "Compressive Strength of Cylindrical Concrete Specimens," is allowable for 7-day job control tests.

Use approved concrete mix designs and concrete aggregate sources.

Concrete mixes will have a minimum temperature of 55° F.

Provide sulfate-resistant concrete for all structural concrete in contact with the soil or groundwater.

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum-wash water at designated areas approved by the Engineer.

ITEM 427 – SURFACE FINISHES FOR CONCRETE

Provide a 9 sq. ft. test area, for each color, prior to concrete application.

ITEM 428 – CONCRETE SURFACE TREATMENT

Surface treatment shall be Class I for the bridge slab and the inside faces of the concrete rails.

The application method and applicator shall be as approved.

ITEM 432 – RIPRAP

Use "Class B" concrete for this Item.

No wire mesh will be allowed on this project for this Item. Reinforce all concrete riprap using bar reinforcement conforming to Item 440 - "Reinforcing Steel," as shown on the plans, or as directed. For roadway illumination assemblies, riprap may include wire mesh as per "RID(FND)-07.

ITEM 438 – CLEANING AND SEALING JOINTS AND CRACKS (RIGID PAVEMENT AND BRIDGE DECKS)

Use color gray for sealant.

ITEM 449 – ANCHOR BOLTS

Use an electrically conducting protective thread lubricant as pipe joint compound for the foundation anchor bolts of the high mast illumination poles.

ITEM 464 – REINFORCED CONCRETE PIPE

Use rubber gaskets as jointing material for concrete pipes.

Concrete collars will be paid under Item 420 as shown on the storm sewer plans.

RCP pipe required for irrigation work must meet ASTM designation A-76, Class III, Wall B, with "O-ring" gasket joints in accordance with ASTM designation C-443.

All proposed reinforced concrete pipe shall be Class III circular pipe, unless otherwise shown on the plans.

ITEM 465 – MANHOLES AND INLETS

Verify all low point locations prior to their construction. Any necessary adjustments shall be as approved or as directed.

All proposed inlets and manholes are detailed in the plans. No modifications beyond these are anticipated; however, the Contractor shall be responsible for any increase in these detailed dimensions, as required to accommodate the proposed reinforced concrete pipe configurations.

Coordinate storm sewer construction with the Traffic Control Plan sequencing. Stage I inlet/manhole construction shall be modified where applicable, as directed.

Verify all inlet locations and elevations prior to their construction.

Stage construction will be required on all Type C and C-C grate inlets and manholes Type P. Field check and determine finish grades of inlets and manholes before starting second stage construction.

Alternate designs bearing the signature and seal of a Texas Licensed Professional Engineer will be acceptable for precast manholes and inlets.

Place silt fence around all inlets and manholes as shown on the plans.

Secure inlet grates and manhole covers to their frames, rings by tack-welding bolt, or by any other approved method. This work and incidentals will be subsidiary to this Item.

All required structural excavation and other incidentals for inlet and manhole construction is subsidiary to the Item.

ITEM 479 – ADJUSTING MANHOLES AND INLETS

Adjust existing manholes and inlets as approved.

Capping of manholes and inlets, as shown on the plans, will be paid under this Item.

ITEM 480 – CLEANING EXISTING CULVERTS

Remove all sediment and debris from existing culverts with an approved method. Dispose removed materials from the project site. Dispose materials on the project, only if directed and approved.

ITEM 481 – PVC PIPE FOR DRAINS

This Item shall govern for irrigation feeders to the fields as shown in the plans, or as directed.

ITEM 496 – REMOVING STRUCTURES

This Item shall govern for the removal of all headwalls, inlets, trash grates, concrete culvert transitions, wingwalls, reinforced concrete pipes, and concrete box culverts. Complete removal shall include all appurtenances. Materials removed shall become property of the Contractor.

ITEM 502 – BARRICADES, SIGNS, AND TRAFFIC HANDLING

Once a month, the Contractor's responsible person for TCP compliance will accompany Department personnel on at least one daytime inspection and one nighttime inspection of the traffic control devices used on the project.

Prior to beginning construction, the Engineer will approve the routing of traffic and sequence of work.

Additional signs and barricades placed as directed will be considered subsidiary to Item 502.

In addition to providing a Contractor's responsible person and a phone number for emergency contact, have an employee(s) available to respond on the project for emergencies and for taking corrective measures within 30 minutes.

Existing regulatory signs, route marker auxiliaries, guide signs, and warning signs that must be removed due to widening will be relocated temporarily and erected on approved supports at locations shown in the plans, or as directed. This work will not be paid directly, but will be considered subsidiary to this Item.

Notify the proper City, County, Emergency Medical Services, Fire Department, Police Department, Texas Department of Public Safety, and Texas Department of Transportation officials when major traffic changes are to be made, such as detours. Coordinate with the Texas Department of Transportation on all traffic changes. The seven (7) day notification for the following week's work must be made by 5:00 pm on Wednesdays.

Traffic must be handled through the project locations as shown on the plans and in conformance with the current *Texas Manual on Uniform Traffic Control Devices* (TMUTCD). Erect and maintain barricades and signs as shown on plan sheets and as directed.

Do not close any lanes between 7:00 AM and 9:00 AM and 4:00 PM and 6:00 PM, unless otherwise directed by Engineer.

Truck-mounted attenuators shall be used as shown in the plans and shall be subsidiary to this Item.

Fill any holes left by barricade or sign supports and restore the area to its original condition.

Some signs, barricades, and channelization devices might not be shown at precise or measured locations and/or positions. Place these barricades, signs and channelization devices in positions to meet field conditions as approved.

Cover the existing advance and supplemental guide signs, including exit gore signs, corresponding to temporary exit or entrance ramp construction. Attach the covering of these signs in a manner which will present a neat appearance and not damage the sign. Maintain these covered signs for the duration of the sequence of construction when existing permanent signs which are to remain in place and/or relocated are uncovered. Remove all other permanent, temporary and detour guide signs.

Remove signs that do not apply to current conditions at the end of each day's work.

Perform striping operations to channelize traffic into the completed roadway as directed.

Maintain shoulders and median areas in a condition capable of serving as emergency paths as approved. This work will be subsidiary to this Item. Use flaggers when directed. Provide two-way radio communication for all flaggers.

During bridge construction at Fonseca Dr., Midway Ave., Yarbrough Dr., and Padres Dr., close intersections only on weekends, for each of the following activities: beam placement, false work installation, bridge deck pouring and false work removal, for a total of four weekend closures at each intersection, or as directed. The intersection closures shall begin at 9:00 PM Friday and end 5:00 AM Monday. The Contractor will be allowed to close only one cross street intersection at a time.

Paragraph deleted.

Law enforcement assistance will be required for this project and is expected to be required for major traffic control changes and lane closures. Coordinate with local law enforcement and arrange for law enforcement as directed or agreed by the Engineer. Complete daily tracking forms provided by the State and submit invoices that agree with the tracking form of payment at the end of each month approved services were provided.

The payment for Uniform Police Officer utilized during traffic control operations shall be made under a Force Account basis.

A Regulatory Construction Speed Zone has been established for this project. Reduced speeds should only be posted in the vicinity of work being performed and not throughout the entire project. If the reduced speed limits are not necessary for the safe operation of traffic during certain construction operations or those days and hours the Contractor is not working, the

regulatory construction speed limit signs must be made inoperative by one of the following methods:

- → Moving the signs to the edge of the right-of-way and facing them away from the roadway.
- → Or, covering the signs when the reduced speed limits are not necessary.

ITEM 504 – FIELD OFFICE AND LABORATORY

Provide one "Type B Structure" Field Office and Laboratory, for use by State personnel. The structure will be located at an approved site.

Furnish a concrete testing machine meeting TxDOT Specification Number 845-06-21 (latest revision). This shall also include platen sets, retainer caps, and compression pads (60 durometer) for testing of 4″ x 8″ cylinders. The compression testing machine will be set up at an approved location. Upon completion of the project, the compression testing machine will be returned to the Contractor.

Furnish with a minimum of two desks, three chairs, and one five-drawer file cabinet.

Furnish a "Type D Structure" for the Asphalt Mix Control laboratory.

Asphalt content will be determined utilizing the Ignition Method.

ITEM 506 – TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

Place construction exits, silt fence, sand bags, and biodegradable logs in locations as designated in the plans or as directed to meet field conditions.

Place a weatherproof bulletin board containing the TCEQ required information on the project at a site as directed. Post the following documents: (1) "TCEQ SPDES Stormwater Program" Construction Site Notice; (2) TCEQ "Notice of Intent"; and (3) TCEQ "TPDES Permit." Place rain gauge(s) at locations as designated.

The total disturbed area for this project is one hundred forty (140) acres. The soil disturbed area in this project, all project locations in the Contract, and Contractor Project Specific Locations (PSLs), within one mile of the project limits, for the Contract will further establish the authorization requirements for Storm Water Discharges. The Department will obtain an authorization to discharge stormwater from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain any required authorization from the TCEQ for any Contractor PSLs for construction support activities on or off right of way. When the total area disturbed for all projects in the Contract and PSLs within one mile of the project limits exceeds five acres, provide a copy of the Contractor NOI PSLs on the right of way to the Engineer (to the appropriate MS4 Operator when on an off-State system route).

Place sedimentation fences as shown on the plans, or as directed. Maintain and properly place the erosion control measures to prevent stormwater pollution to the Waters of the United States, as directed. Keep all inlets, within the project limits, functional as long as possible in order to accept stormwater as part of the SWP3, as directed.

The sedimentation fences will be paid for at the time of their initial placement. Any required replacement will not be a substitute for proper maintenance and be allowed as directed. This work is subsidiary to this Item.

Grading operations will be limited to the catch point of the proposed cross-section. Preserve any vegetation outside these limits.

ITEM 512 – PORTABLE CONCRETE TRAFFIC BARRIER

Place temporary PCTB under traffic conditions using lane closures during off-peak hours.

Use PCTB provided by the State. Load, haul, place, and store PCTB as directed by Engineer.

Obtain 50,000 LF of PCTB from the stockpile located at the Allamore interchange at IH-10 Mile Marker 129 and 43,000 LF from the Canutillo stockpile located on SH-20 in western El Paso County. The PCTB will be returned to various stockpile locations, not to exceed 30 miles from the project, as determined by the Engineer.

Any PCTB furnished by the State, damaged in the process of transporting, handling, or placing will be repaired or replaced as directed at the Contractor's expense. Clean, paint and surface-treat any sections of the PCTB furnished by the State prior to usage, as directed.

ITEM 514 – PERMANENT CONCRETE TRAFFIC BARRIER

Color and pattern for permanent concrete traffic barrier, shall match existing concrete barrier along Loop 375 (Cesar Chavez Highway), as detailed in the plans. Imprint all CTB, shown as A, B, C, and D with custom design on both sides. All CTB shown as E shall have the simple design for illumination assemblies and installed as required by illumination layouts. All CTB patterns are designed to line up at edges when placed in random order. No patterned CTB is to be placed next to a CTB with identical pattern. All work is considered subsidiary to this Item.

Paint the CTB with the specified Federal Color Pallet as detailed on Aesthetic sheets:

Tangier	(Fed Std #22276)
Mauve	(Fed Std #30206)
Greek Isle	(Fed Std #25229)

ITEM 529 – CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER

In lieu of the gradation of coarse aggregate for these items, the following gradation may be used:

SIEVE SIZE	% RETAINED
1 IN.	0
¾ IN.	0-10
⅜ IN.	45-80
#4	90-100
#8	95-100

Use Type II cement and "Class A" concrete for these items, unless otherwise shown on the plans.

No wire mesh will be allowed. Reinforce all concrete for these items using bar reinforcement conforming to Item 440 – "Reinforcing Steel" as shown on the plans, or as directed.

Construct the curb opening with metal plate configuration detailed on the plans at locations shown on the plans, or as directed to ensure roadway drainage to the earthen ditch. No direct payment will be made for these features. Payment will be made under Items 529 and 531 as if the openings did not exist. All required manipulations or incidentals required to complete this work will be considered subsidiary to those items.

Locations and type of curb and gutter required for this job:

- Mainlanes: none
- Frontage roads: Curb & Gutter Type II
- Ramps: Curb & Gutter Type I

ITEM 540 – METAL BEAM GUARD FENCE

Provide composite blockouts for all metal beam guard fence (MBGF) posts.

Stake locations prior to beginning the installation of the proposed MBGF, for approval by the Engineer.

Remove all delineators and object markers associated with the MBGF. This work will be subsidiary to the various bid items.

Verify MBGF post lengths and heights prior to ordering of materials.

Place reflectors, as per D&OM(1)-10 Standard on the rail element or as directed. This work will not be paid directly, but will be considered subsidiary to pertinent items of this Contract.

At the end of each workday, protect all untreated, incomplete, blunt ends of metal beam guard fence (MBGF) exposed to traffic flow during construction until the permanent end treatment is in place. All work and incidentals are considered subsidiary to this Item.

Construction of all guardrails will proceed in the direction of traffic flow.

MBGF not used shall become property of the Contractor.

ITEM 544 – GUARDRAIL END TREATMENTS

Removed guardrail end treatments, shall become property of the State.

ITEM 545 – CRASH CUSHION ATTENUATORS

Furnish crash cushion attenuators at the locations shown in the plans for work zone applications. Crash Cushion attenuators shall meet the plan requirements and be on the Department's *Compliant Work Zone Traffic Control Devices* List.

ITEM 585 – RIDE QUALITY FOR PAVEMENT SURFACES

Use Surface Test Type **B** to govern ride quality.

"Pay Adjustment, Schedule **2**"will be used on this project.

ITEM 610 – ROADWAY ILLUMINATION ASSEMBLIES

All underdeck luminaires shall be rated for operation at 240 V.

Prior to Phase III of the Traffic Control Plan, remove the existing luminaire located at Station 721+90(A) and paid under this Item. Take care not to damage the luminaire while transporting and storing.

Re-install luminaire at the completion of Phase III. Cover the base of the luminaire when placement is complete.

ITEM 618 – CONDUIT

Work and backfilling for all new conduits shall be in accordance with Item 400, "Excavation and Backfill for Structures," except for measurement and payment.

For conduit placement in pavement, an earth saw may be used provided the cut does not exceed 6-in. Backfill as shown on the trench details in the plans.

When shown on the plans, the Contractor shall use "Underground Electrical Marking Tape" in the trench installation of conduit (PVC). The marking tape shall be a minimum of 3-in. wide, red in color, made of inert polyethylene plastic that is impervious to all known alkalis, acids, chemical reagents, etc., that may be encountered in the soil. The marking tape shall have the

words, "CAUTION, ELECTRICAL LINE BURIED BELOW" continuously printed on the tape. The marking tape is subsidiary to this Item.

All underground conduit bends of 45° or more shall be made with rigid metal conduit. Where the rigid metal conduit is exposed at any point and where rigid metal extends into ground boxes, bond the metal conduit to the grounding conductor with grounding-type bushings or by other UL-listed grounding connectors, approved by the Engineer. Rigid metal bends shall not be paid separately, but shall be considered incidental to the PVC conduit system.

Use rigid metal conduit when crossing bridges or culverts. All clamps, expansion joints, bolts, and accessories necessary to install the rigid metal shall be subsidiary to this Item.

Backfill the trench for the roadway with cement-stabilized backfill at the end of each working day. The ACP patch shall be in place at the end of the week, or as directed.

All conduit elbows and rigid metal extensions required to be installed on PVC conduit systems, will not be paid separately, but will be considered subsidiary to the various bid items.

All bore items shall be directional and shall be paid under this Item. Bore quantity shown in plans, will pay only for the distance beneath the roadway, plus an additional 2-ft. to each side past the curb, sidewalk, or edge of pavement.

For conduit placement using the open-trench method, backfill as shown on the plans.

Place conduit for fiber optic cable at a minimum of 48-in. below pavement surface. Place all other conduit at a minimum depth of 18-in. below the pavement surface. Conduit placement shall be accomplished prior to new pavement construction.

Fit both ends of each raceway with a temporary cap to prevent dirt and debris from entering during construction.

Install a continuous bare or green insulated copper wire No.8 AWG or larger in every conduit throughout the electrical system in accordance with the Electrical Detail sheets, and the latest edition of the *National Electrical Code*.

When conduit is to be installed where riprap presently exists, take care in breaking out existing riprap for placement of the conduit. Do not break out a greater area that is required for placement of the conduit. Replace broken out riprap with "Class C" concrete to the exact slope, pattern, and thickness of the existing riprap. Replacement of riprap shall be subsidiary to this Item.

ITEM 620 – ELECTRICAL CONDUCTORS

Use NEC Type XHHW for all conductors.

Insulate grounding conductors with a green jacket and neutral conductors shall have a white jacket.

Bond together grounding conductors, which share the same conduit, junction box, ground box, or structure at every accessible point, in accordance with the Electrical Detail sheets and the latest edition of the *National Electrical Code*.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Texas Department of Transportation (TxDOT) *Materials Producer List*. Category is "Roadway Illumination and Electrical Supplies." Fuse holder is shown on list under Items 610 & 620. Provide 10 amp time delay fuses.

Include extra cable length in each ground box or foundation for each run, to provide adequate slack, as provided in the plans or as directed.

Ensure a properly bonded electrical system by running one No.8 wire between foundations and grounding it at each foundation ground-rod.

Bond metal junction boxes and metal conduit to the circuit grounding conductor, in accordance to the *National Electrical Code*.

For electrical certification and electrical licensing requirements see Item 7, Section 7.15 "Electrical Requirements" and any Special Provisions to Item 7 for additional details.

The required electrical certifications course is available and is scheduled periodically by Texas Engineering Extension Service (TEEX). Alternatively, Contractors may purchase an entire course for their personnel to be held at a time and location of their choice as negotiated through TEEX. For more information contact:

Texas Engineering Extension Service (TEEX)
TxDOT Electrical System Course
(979) 845-6563

ITEM 624 – GROUND BOXES

Remove all conductors in ground boxes shown on the plans to be abandoned. Payment for removal of conductors shall be subsidiary to this Item.

ITEM 628 – ELECTRICAL SERVICES

Meet at the service locations with the State, electrical utility company, and the City of El Paso Engineering Section (Traffic Section) two weeks prior to the time electrical power is required. This meeting will finalize exact service pole placement and resolve any issues.

Any electrical costs for connection, test, and operation will be the responsibility of the government agency that will have the final operational control of the items built.

Remove the existing service enclosure and conduit on service poles that are to be reused or abandoned. Payment for removal will be considered subsidiary to this Item.

ITEM 636 – ALUMINUM SIGNS

Use Type D super-high specific intensity (non-fluorescent prismatic) sheeting for all overhead guide signs (both background and legend), conforming to DMS-8300, flat surface reflective sheeting.

Use expressway Clearview font for all overhead signs manufactured with Type D sheeting. The spacing between the letters shall be the same as the spacing between E(MOD) letters.

ITEM 644 – SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES

Stake all sign locations and receive approval prior to sign placement.

The 2½-inch, Schedule 10 post will meet the following requirements:

- 0.120 inch nominal wall thickness
- Seamless or electric-resistance welded steel tubing or pipe
- Steel will be HSLAS Grade 55 per ASTM A1011 or ASTM A1008

Other steel may be used, if it meets the following:

- 55,000 PSI minimum yield strength
- 70,000 PSI minimum tensile strength
- 20% minimum elongation in 2 inches
- Wall thickness (uncoated) to be within the range of 0.108-in. to 0.132-in. galvanization per ASTM A123 or ASTM A653 G90.

For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metalizing with zinc wire per ASTM B833.

Provide Texas Universal Triangular Slip Base for all signs.

Verify all post lengths to ensure the proper sign height. Remove and replace any sign installed incorrectly. This work will be done at no expense to the State.

As directed, some regulatory and guide signs will be relocated before construction begins. Mark and locate each reference marker perpendicular to the road and along the right of way, or as directed, prior to removal. Re-erect reference markers at their original location upon completion of construction.

ITEM 650 – OVERHEAD SIGN SUPPORTS

Provide a minimum clearance of 19.0 feet from the elevation of high point of roadway to bottom of the future lane control signals as shown on the plans, or as directed.

Base column lengths on base plate elevations provided on plans. Field verify all base plate elevations prior to column fabrication. Furnish corrected column lengths to the Engineer for approval, after placement of the drill shafts.

For Use with Tubular Overhead Sign Bridges:
Provide anti-graffiti coating on all faces of column and color Awning Red, Fed #30233 (Type II) paint for all exposed concrete columns. Paint and graffiti coating is subsidiary to this Item.

Provide smooth, round, hot-dipped galvanized (inside and outside) overhead sign supports. Submit shop drawings to the Engineer for approval.

Weld all tubular structural frame pipe or seamless steel pipe. Conform to the following:

ASTM A-53	Grade B,	Type E or S
ASTM A252	Grade 2,	Type E or S
ASTM A106	Grade B,	Type S
API 5L	Grade B,	Type E or S
API 5LX	Grade X42,	Type E or S

All other structural steel will conform to ASTM specifications A36, unless noted otherwise. All steel greater than ½-inch thickness will conform to the longitudinal Charpy V-Notch requirements of ASTM A36, Group I in accordance with Article 442.3

Coating System
Provide a coating system of a polyamide-cured epoxy prime coat, a polyamide-cured epoxy intermediate coat material. All three system coats should be manufactured from the same company to ensure compatibility among coats, from one of the following manufacturers or an approved equal:

1. Ameron
   210 North Bearry St.
   Brea, California 92622
   Local telephone contact: (419)885-5336
   Prime coat: Amerlock® 400
   Top coat: Amercoat® 450 HS

2. ICI/DEVOE Coatings
   5480 Clover Leaf Pkwy
   Valley View, Ohio 44125
   Local telephone contact: (216)328-1581
   Prime coat: Devran 4170 Corrosion Resistant Epoxy
   Intermediate coat: Devran 4170 Corrosion Resistant Epoxy
   Top coat: Devthane 4708 Aliphatic Urethane Enamel

3. Porter Paint Co.
   400 South 13th Street
   Louisville, KY 40201
   Local telephone contact: (419) 666-0026
   Prime coat: Porter Paints MCR 4300
   Intermediate coat: Porter Paints MCR 4300
   Top coat: Porter Paints Hythane

4. Poly-Carb, Inc.
   33095 Bainbridge Road
   P.O. Box 39278
   Solon, Ohio 44139
   Local telephone contact: (419)248-1223
   Prime coat: Mark-60 (ULTRA POX)
   Intermediate coat: Mark-60 (ULTRA POX)
   Top coat: Mark-73 (ULTRAKOTE)

5. Sherwin-Williams Company
   671 Beta Drive
   Mayfield Village, Ohio 44143
   Local telephone contact: (440)461-3310
   Prime coat: Tile-Clad II Hi-Build Primer
   Intermediate coat: Hi-Build Aliphatic Polyurethane Enamel

Surface Preparations
New un-weathered galvanized support sections will have their surface preparation as well as their protective coating done at the manufacturer of the support sections.

The support sections will be prepared for coating by SSPC SPI followed by SSPC-SP7 (solvent cleaning) followed by a brush off blast. Blasting abrasives containing more than 1% free silica will not be allowed. Before the prepared surface degrades from the prescribed standards, the prime coat will be applied. In every case, the surfaces will be coated with the epoxy prime coat on the same day of surface preparation. Careful handling and storage will be required to prevent scarping, marring, or other surface damage to the prepared surface.

Coating, Wash Primer 1.5 mils
This coat will consist of one coat of an epoxy primer to support sections. The total dry film thickness of this coat will be between 1.5 and 2.0 mils. If more than one coat is needed, expense will be borne by the Contractor.

This coat will in all cases be applied by brush over surfaces that were prepared earlier that same day. The thinning of the epoxy material is strictly prohibited. Do not use material that is not capable of being applied as specified.

When the average dry film thickness of this coat over the entire support section is less than the specified 1.5 mils, this item will be reduced in direct proportion to the deficiency of coating if more than 16⅔%. If the deficiency of coating is more than 16⅔% (i.e. the average dry film thickness is less than 1.25 mils), the work for this Item will be considered unsatisfactory and will be relocated at the full expense of the Contractor, including all labor.

Coating, Urethane Top Coat, Support Sections
This item will consist of the application of one coat of urethane to support sections. The total dry film thickness of this coat will not be less than 1.5 mils. If more than one pass is necessary to obtain the required thickness that coat expense will be borne by the Contractor.

All coatings are subsidiary to Item 650 "Overhead Sign Supports."

Final color will be Patina Green FED #24300.

ITEM 656 – FOUNDATIONS FOR TRAFFIC CONTROL DEVICES

Use the following classes of concrete as listed:

Sign Foundations – "Class B"
Signal Pole Foundations – "Class A"
Signal Controller Foundations – "Class A"
Traffic Management Cabinet & Controller Foundations – "Class A"

Form and strike level the top 8-in. of the foundations.

All anchor bolts used for this Item shall be in accordance with Item 449, and subsidiary to the various bid items.

Install traffic signal pole foundations with a ⅝″ x 8′-0″ copper-clad steel ground rod instead of the UFER requirement shown on TS-FD-99.

ITEM 658 – DELINEATOR AND OBJECT MARKER ASSEMBLIES

Place "Type C" reflectors along the MBGF at 25 foot spacing and as shown on "Detail B" of Standard D&OM (VIA)-04 or as directed.

Verify all locations with the Engineer prior to installation.

Removal and proper disposal of all existing delineators, object markers and any non-standard hardware assemblies are not paid directly, but will be considered subsidiary to pertinent items for payment.

ITEM 662 – WORK ZONE PAVEMENT MARKINGS

In those areas where existing pavement markings necessitate removal to accommodate, the traffic handling as described in the Traffic Control Plans, field locate and record, by survey, the existing pavement markings as directed. Place final striping on these locations.

Remove tabs and properly dispose upon completion of the final striping. This work is considered subsidiary to various bid items.

Use non-removable paint and glass beads for work zone pavement markings. Place these pavement markings at the centerline in accordance with Item 666 "Reflectorized Pavement Markings."

ITEM 672 – RAISED PAVEMENT MARKERS

Furnish approved adhesive that conforms to DMS – 6130 "Bituminous Adhesive" for pavement markers.

Do not place raised pavement markers when the pavement surface temperature is below 60°F.

Removal of all existing raised pavement markers will be considered subsidiary to the various bid items for payment.

ITEM 6834 – PORTABLE CHANGEABLE MESSAGE SIGN

Provide messages as directed.

Portable changeable message signs to be available as deemed necessary.

ITEM 8251 – REFLECTORIZED PAVEMENT MARKINGS WITH RETROREFLECTIVE REQUIREMENTS

Remove temporary tabs by an approved method upon the completion of the final striping.

Furnish Type II glass traffic beads that conform to DMS-8290.

Reference and maintain records of existing striping in order to stripe the roadway, as it was prior to surface treatments.

Mark the location of standard pavement markings, including barrier lines, no passing zones, gores, and transitions adjusting to meet latest standards, or as directed.

Use a portable reflectometer for retroreflectivity testing.

Intelligent Transportation System (ITS) – General

This Contract shall consist of furnishing, installing, testing, and/or integrating traffic management hardware into the existing TxDOT TransVista Operations Traffic Management Center (TMC) and area offices, as shown in the plans. Select and install equipment as required to achieve a complete and fully operational Traffic Management System (TMS).

This Contract shall include the following components:

1. Installation and integration of Radar Vehicle Sensing Device (RVSD) systems at locations shown on the plan sheets including but not limited to, installation of camera pole structure with cabinet (55′), if shown on the plans, RVSD Detectors, and Communication Handlers.
2. Dynamic Message Sign (DMS) at locations shown on the plan sheets, including but not limited to, the LED DMS System, electric power, the structure, and ITS interconnect to the TxDOT Traffic Management Center (TMC). The access door to the DMS should be on the shoulder side of the roadway for easier access.
3. Video Surveillance (CCTV) at locations, shown on the plans, including but not limited to the LED LCS System and ITS integration with the TxDOT TMC.
4. LED Lane Control System (LCS) at locations shown on the plan sheets, including but not limited to the LED LCS and ITS integration with the TxDOT TMC.
5. Network and local communications hardware, including but not limited to video encoders, video decoders, field Ethernet switches, terminal servers, communication cabinets, add/drop multiplexors (Extreme), electric service and breakers, racks/cabinets and testing and integration into the TxDOT and City of El Paso TMC.
6. Single mode fiber optic cable infrastructure at locations shown on the plans, including but not limited to, conduit, electrical conductor, fiber optic cable, splice enclosures, connectors, pigtails, ground boxes, testing, and integration into the TxDOT TMC.
7. Heading west from the proposed ground box Type 2 at Station 278+00, the existing 48 fiber optic strand cable will remain the same. From the proposed ground box Type 2 at Station 278+00 to the proposed ground box Type 2 at Station 285+00 the proposed 48 strand fiber optic cable will be installed. Existing 48 strand fiber optic cable from the proposed ground box Type 2 at STA 285+00 to the proposed ground box Type 2 at Station 703+50 will be removed and replaced by the proposed 144 strand fiber optic cable. From the proposed ground box Type 2 at Station 703+50 heading due east, the existing 48 fiber strand optic cable will remain.

Furnish and install incidentals shall be subsidiary to the various bid items.

Install all fiber re-routing prior to abandoning existing fiber optic cable. The existing ITS equipment shall remain in operation during the project and switched to the new fiber optic cables with minimum downtime.

Coordinate with the Engineer before assigning matching fiber numbers to proposed and existing equipment.

The proposed freeway management equipment shall be integrated with and be fully compatible and interoperable with both the City of El Paso and TxDOT TMC.

All circuits shall test clear of faults, grounds, and open circuits.

The locations of all ground boxes, cabinet foundations, and structures and may be moved only as approved in writing.

Furnish and install where new equipment is to be installed in existing cabinets, all necessary shelves, terminal panels, wiring, cabling, harnesses, etc. All costs associated with these modifications shall be included in the priced bid for the equipment and no separate measurement will be made any. Any damage to existing equipment shall be repaired or replaced at the Contractor's expense.

All electrical work performed, including supervision, will be by qualified electricians, holding current journeyman's electrical license issued by the State of Texas or by a city in Texas with a population of 50,000 or more. Licenses outside of Texas will be considered, but must be approved by the Engineer. The Engineer's decision will be based on sufficient written evidence that the license was issued by a competent authority based on the individual passing of a written examination based on the NEC and upon sufficient commensurate electrical experience. The master electrician need not be present on the jobsite at all times.

Apprentices or TxDOT-certified persons may assist the journeyman. At no time shall any non-licensed person work on an energized circuit. A non-licensed person shall not work alone for an extended period of time. Laborers or utility laborers may assist in non-electrical work.

The license of each individual shall be approved by the Engineer before starting work. A copy of the license shall be kept onsite.

Items provided by the State are listed under a Force Account for "OTN Workstation (Extreme)."

ITEM 6011 – TESTING, TRAINING, DOCUMENTATION, FINAL ACCEPTANCE, AND WARRANTY

ITEM 6613 – SYSTEM INTEGRATION

Furnish equipment compatible with State equipment and mounting facilities. Submit equipment list and specifications for approval prior to delivery.

The following data is needed prior to final acceptance during construction of Traffic Management equipment shall be submitted for approval by the Engineer and TransVista prior to delivery:

1. Freeway Management System Geographic Information System (FMSGIS) Data by providing survey information in the following format (NAD 83) and (latitude and longitude) of all poles, ground boxes, controller cabinets, HAR beacon signs, and overhead sign structures.
2. Digital photos and serials on all poles, controller cabinets, elements in controller cabinets, and overhead sign structures.
3. Fiber optic cable and channel assignments and distribution, to include all patch panels, fiber jumpers, and fiber trays, in system software approved by the Engineer.

Provide training and system user manual for 15 people on programming, troubleshooting, and maintenance of the system installed in this project. This training should last no longer than 40 hours.

Training must cover an overview of Ethernet and RS-232 serial communications networks on different mediums, to include the use of handheld spectrum analyzer with high accuracy power meter.

Training must cover programming and troubleshooting, but not limited to the following:

- Video Encoder
- Video Decoder
- Ethernet Switch
- Terminal Server
- RVSD Communications Handler
- LCS Communications Handler
- Add/Drop Multiplexor (Extreme)

ITS SYSTEM SUPPORT EQUIPMENT

Furnish the following items, meeting the specifications in this Contract:

DESCRIPTION	QUANTITY
CCTV	1
LED Lane Control System	3
Radar Vehicle Sensing Device	1
Wireless Ethernet Radio	1
Terminal Server	1
Field Ethernet Switch	1
Video Encoder	1
Video Decoder	1

All Contractor-furnished equipment shall be compatible with existing State equipment and mounting facilities. Submit all equipment and specifications for approval prior to delivery.

Contact the Engineer and verify equipment models prior to ordering system support equipment.

Deliver all equipment provided under this item to:

Texas Department of Transportation
Signal Shop
13301 Gateway West Blvd
El Paso, TX 79928

ITEM 6613 – SYSTEM INTEGRATION
ITEM 8288 – RADAR VEHICLE SENSING DEVICE
ITEM 8674 – CAMERA POLE STRUCTURE WITH CABINET (55′)
ITEM 8675 – COMMUNICATIONS HUB CABINET
ITEM 8679 – 900 MHZ WIRELESS ETHERNET RADIO
ITEM 8732 – ENVIRONMENTALLY CONTROLLED UNIT
ITEM 8734 – LED LANE CONTROL SYSTEM EQUIPMENT
FIBER OPTIC CABLE
ITS FIELD EQUIPMENT CABINET

Furnish equipment compatible with State equipment and mounting facilities. Submit equipment list and specifications for approval prior to delivery.

Cabinet foundations shall be subsidiary to pertinent pay items.

Install the lane control signal controller inside the LED lane control signal equipment cabinet.

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